

PUBLIC QUARTERLY REPORT

Guidelines for the Identification of Stress Corrosion Cracking Sites and the Estimation of Re-Inspection Intervals for Stress Corrosion Cracking Direct Assessment

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Prepared For: United States Department of Transportation
Pipeline and Hazardous Materials Safety Administration
Office of Pipeline Safety

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LEADING PIPELINE RESEARCH

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Technical Status

Progress in the quarter was made on a number of the scheduled tasks. In particular, progress was made on Task 1: Data Collection and Task 2: Data Analysis. Significant progress has been made in obtaining field data from pipeline operators (Task 1.2). Critical review of the literature data previously collected has continued during the quarter (Tasks 2.1-2.4). There has been limited opportunity for technology transfer (Task 4) in the quarter. Limited progress was made on Task 3: Documentation, and there is no detailed reporting for that task presented in this report.

Task 1: Data Collection

Sub-task 1.1 Data Collection from Literature

Formal data collection from the historical literature has been completed as reported in the Q5 quarterly report (August 31, 2007). Although the formal literature data collection has been completed, the literature is still being monitored for new publications in this area.

Sub-task 1.2 Data Collection from Pipeline Operators

Collection of data from pipeline operators is being coordinated by PRCI and involves a single effort to collect data that will be used for a number of SCC-related projects. During the past quarter, the following activities have taken place:

1. Circulation of a comprehensive data collection spreadsheet to the 37 full and associate members of PRCI
2. Follow-up personal contacts with the companies contacted to ensure submission of completed spreadsheets
3. Preliminary analysis of data

The data collection spreadsheet was sent to the 37 full and associate members of PRCI in mid-June 2008. These companies represent the major oil and gas transmission companies in the United States and Canada, as well as a number of major pipeline companies in Europe and South America. As of the end of August, four companies have supplied data. Of these, two supplied data in the requested format and the two others supplied data in company-specific formats. Only two of the four companies reporting have observed SCC. (Information from companies that have not found SCC may also be useful in validating the guidelines developed in this project, serving as a “null data” set). Personal contact has been made with each of the companies that have not yet responded to the data request.

Task 2: Data Analysis

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The field data collected to date has been used to perform a preliminary validation of possible rules and guidelines developed in this project based on the literature search from Task 1. Using this information, four (4) separate tables have been developed for each of the four stage of crack growth considered in the guidelines.

Table 1: Pipeline Susceptibility to SCC

Table 2: SCC Initiation

Table 3: Crack Growth to Dormancy

Table 4: Crack Growth to Failure

Once data has been obtained from a larger number of companies a blended dataset will be developed and used for the validation process.

Task 3: Documentation

No specific activity in the quarter

Task 4: Technology Transfer

No specific activity/opportunity in the quarter.

Issues, Problems or Challenges

Need to continue to work with pipeline companies to obtain field data for validation of the rules and guidelines.

PRCI will prepare and submit a contract modification request for adjustments to the milestone schedule, as the continued efforts for SCC data mining are requiring an extension of the tasks and activities across a greater number of milestones.

This report is being submitted as a quarterly progress report (ninth quarter) consistent with the recently approved contract modification.

Plans for Future Activity

The following activities are anticipated for the next milestone period:

Technical Progress

The project will work on continued data analysis and development of guidelines for each module or stage of the guidelines. The focus will be on all four modules.

Progress on coordinated data collection from PRCI member companies will continue.



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Meetings and Demonstrations

A Project Review will be scheduled with PHMSA and the PRCI Project Team during the next quarterly period.

Administrative Progress

A contract modification should be completed and processed.